United Nations A/70/115

General Assembly

Distr.: General
26 June 2015

Original: English

Seventieth session
Item 98 (p) of the preliminary list*
General and complete disarmament: the illicit trade in small arms and light weapons in all its aspects

Letter dated 17 June 2015 from the Permanent Representative of the Republic of Moldova to the United Nations addressed to the Secretary-General

I am writing to you with regard to the second open-ended meeting of governmental experts on the Programme of Action to Prevent, Combat and Eradicate the Illicit Trade in Small Arms and Light Weapons in All Its Aspects, which I had the honour of chairing in New York from 1 to 5 June 2015.

The expert-level meeting considered the following issues: the implications of recent developments in small arms and light weapons manufacturing, technology and design for effective marking, record-keeping and tracing; practical steps to ensure the continued and enhanced effectiveness of national marking, record-keeping and tracing systems in the light of such developments, including ways to support the transfer, uptake and effective utilization of relevant tools and technologies; the transfer of technology and equipment, as well as capacity-building, in particular training, for the full and effective implementation of the Programme of Action and the International Instrument to Enable States to Identify and Trace, in a Timely and Reliable Manner, Illicit Small Arms and Light Weapons; and additional issues relating to the implementation of the Programme of Action and the International Tracing Instrument.

As agreed with participants at the meeting, I have sought to capture the key points arising from the discussions during the meeting in a Chair's summary prepared under my own responsibility (see annex). It is my hope that those points will provide a record of the considerations that transpired at the meeting, and, if Member States so wish, facilitate continued deliberation on the emerging issues at future meetings held on the Programme of Action and the International Tracing Instrument.

* A/70/50.

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In the light of the above, I request that the present letter and its annex be issued as a document of the seventieth session of the General Assembly, under item 98 (p) of the preliminary list.

(*Signed*) Vlad **Lupan**
Ambassador Extraordinary and Plenipotentiary
Permanent Representative of the Republic of Moldova
to the United Nations

Annex to the letter dated 17 June 2015 from the Permanent Representative of the Republic of Moldova to the United Nations addressed to the Secretary-General

Second open-ended meeting of governmental experts on the Programme of Action to Prevent, Combat and Eradicate the Illicit Trade in Small Arms and Light Weapons in All Its Aspects, 1-5 June 2015

Summary by the Chair

A. Overview

1. In the drafting of the present summary, the Chair has taken into account discussions by States during the second open-ended meeting of governmental experts on the Programme of Action to Prevent, Combat and Eradicate the Illicit Trade in Small Arms and Light Weapons in All Its Aspects, expert technical presentations offered under each agenda item and the working papers of the meeting prepared by delegations, as well as presentations by international organizations and civil society organizations.

2. The Chair heard strong requests by States at the meeting to include in the summary concrete measures for taking forward the issue of recent developments in small arms and light weapons technology under the Programme of Action process. He also heard calls from States to provide initial conclusions on the ways forward to address the challenges posed by such technologies. As such, the elements have been addressed in the present summary.

3. Many considerations emerged from the discussions. They reflect that the technological divide between States means that new developments in small arms and light weapons technology affect States differently. While some States are weighing the potential implications of three-dimensional (3D) printing, many still face barriers to implementing the basic requirements of the Programme of Action and the International Instrument to Enable States to Identify and Trace, in a Timely and Reliable Manner, Illicit Small Arms and Light Weapons. Therefore, there was a strong emphasis at the meeting for more in-depth consideration of new and existing technologies, including in the light of international cooperation and assistance, capacity-building and the transfer of technology and knowledge.

4. States unanimously reaffirmed the validity of the Programme of Action and the International Tracing Instrument, while some States indicated that additional guidance was required for the purposes of implementing the International Tracing Instrument, particularly regarding modular weapons and other new developments.

5. While the need to continue to tackle existing challenges was recognized, there was general agreement that, in addressing new developments in technology, States were looking to ensure that they were well prepared to address issues that might become challenges in the future, thus ensuring that the international community remained ever-ready and ahead of the curve in addressing the illicit trade in small arms and light weapons.

6. The present summary outlines core elements as they were discussed during the meeting. The summary was prepared by the Chair under his own responsibility and reflects his interpretation of the main points under discussion. It does not represent a full record of all the issues discussed during the week, nor does it reproduce the national positions of delegations.

B. Consideration of the implications of recent developments in small arms and light weapons manufacturing, technology and design for effective marking, record-keeping and tracing

How to mark materials

7. It was stated that until the third quarter of the twentieth century, essential parts of small arms were generally made of steel. Since then, aluminium, titanium and other metals had come into use, and polymers had been introduced in the mid-1960s as a cost-efficient method of manufacturing predominantly handgun frames.

8. Polymers were currently being used more often in the production of handgun frames and some long-arm receivers. They had become a mainstream method of manufacture within the industry. Polymers provided lower cost, lighter weight, resistance to moisture, ergonomic design and thermal neutrality. They offered less tensile strength than steel or aluminium, however, and were more susceptible to accidental damage. Polymers were cheaper in general, but it was more expensive to customize them to specific marking requirements under the International Tracing Instrument.

9. At the meeting, States considered the implications for the effective marking of polymer frames used in small arms production. They noted that durable marking, as prescribed in paragraph 7 of the International Tracing Instrument, was more difficult to achieve in the case of polymers, especially after the time of manufacture, for example, at the time of import.

10. Laser marking and micro-percussion (dot peen) were marking methods considered in the context of polymer frames. States noted that the cost of laser marking was relatively high, while in the experience of some delegations neither method presented a sufficiently durable option for marking polymer weapons. The ability to recover laser or dot peen marks that had been erased or altered was also very limited.

11. In order to ensure that a polymer frame weapon received a durable marking, one option recommended was to use a traditional stamping method of marking on metal parts of the weapon, such as the barrel or the bolt. That option, however, did not comply with paragraph 10 of the International Tracing Instrument as the components (barrel and bolt) were not essential structural core components of the weapon.

12. Another option was to require all manufacturers to insert a metal tag or plate in the polymer frame. Although some States noted that it was possible, in some cases, for an arms trafficker to easily remove such a tag, States considered the suggestion of embedding the metal tag in such a way that it could not be removed without damaging the frame.

13. Some States pointed out that the use of metal tags did not necessarily resolve the difficulty of marking polymer frame firearms after the time of manufacture, as there might be insufficient space on the metal tag for such markings. Although manufacturers could leave some space on the metal tag for post-manufacture markings, space might still be insufficient if the arm was imported into several countries. One of the follow-up suggestions was to place an additional unmarked metal tag for the purposes of post-manufacture marking.

14. Another partial solution was for the manufacturer to include the import marking during time of manufacture, at least in cases in which the end user was known at the time of manufacture. Some States also raised the question of whether a specially designated area on a weapon could be ensured during manufacture for durable marking, using dot peen or another type of marking.

15. States noted that, while the utmost should be done to mark small arms and light weapons durably, in line with the International Tracing Instrument, criminals intent on doing so could often remove any compliant markings.

16. Several States called for further consultations with manufacturers on issues relating to weapons marking, including regarding guidance on cost-effective options. While they noted that some details of implementation should be left to producers, they stressed that it was the responsibility of Governments to develop the applicable rules in that area.

Where to mark modular weapons

17. As national armed forces sought to prepare for a wide range of operational scenarios, they were driving demand for the development and production of modular weapons featuring a core, or fixed, component around which most other components of the rifle could be changed, allowing for fundamental changes in the weapon's configuration and even, in some cases, its calibre.

18. The fact that modular weapons could be fitted with different components, including from other weapons, would result in different serial numbers appearing on the same weapon, increasing the risk of misidentification.

19. At the meeting, experts indicated in their presentations that, with the advent of modular weapons, the question of where best to mark a weapon had become increasingly important. Paragraph 10 of the International Tracing Instrument prescribed the application of a unique marking to an essential or structural component of the weapon, such as the frame and/or receiver, and encouraged the marking of other parts of the weapon, such as the barrel and/or slide or cylinder.

20. It was pointed out, however, that some weapons had split receivers, which made it more difficult to identify the essential or structural component for the purposes of unique marking. For some modular weapons, the essential or structural component was the upper receiver, which could have a marked changing barrel or a non-removable barrel, while for others it was the lower receiver. A challenge in that regard might be that many States had not decided at the national level which component constituted the essential or structural component.

21. Several States suggested that the original manufacturer of a modular weapon could determine which part of the weapon was the essential or structural component. That component would serve as the "control component" of the weapon

and would therefore receive the unique markings prescribed in paragraph 8 of the International Tracing Instrument. At the same time, only the markings on the control component would be used to create the record for the weapon.

22. There were several proposals regarding the marking of modular weapons. In the view of some States, the markings on the control component could be preceded by the number "(1)", with the markings on other components of the weapon preceded by the number "(2) ...", in order to distinguish the control component from the weapon's other components. Some States proposed that only the control component be marked, while others saw no problem in continuing to mark the non-control components of a modular weapon, provided it was clear which component served as the control component, in essence representing the weapon for the purposes of tracing. Again, States stressed that it was the responsibility of Governments to develop the applicable rules in that area.

C. Consideration of practical steps to ensure the continued and enhanced effectiveness of national marking, record-keeping and tracing systems in the light of developments, including ways to support the transfer, uptake and effective utilization of relevant tools and technologies

Potential challenges to production

23. It was stated that three-dimensional (3D) printing, or "additive manufacturing" technology, had been used mainly in architecture, industrial design, biotechnology and aerospace. In 3D printing, a machine read the design from a 3D-printable file and laid down successive layers of liquid, powder, paper or sheet material to build the model from a series of cross sections. The layers were joined or automatically fused to create the final shape.

24. In recent years, 3D printing technology had been used for making weapons on some occasions, first using polymers and then also using metals, although the reliability of a weapon produced in that way was not very high currently. That might change as technology progressed, while currently a printed weapon that could fire a single shot or more than 10 shots already posed a threat.

25. Experts pointed out that the manufacture of a 3D-printed weapon required no small amount of resources and time. At the same time, the private assembling of a 3D printer and its use for the production of a functioning weapon had already been shown to be possible.

26. A potential challenge relating to 3D-printed firearms was the greater ease with which such weapons could be smuggled past many standard screening mechanisms, in particular metal detectors. Some tests had shown that 3D-printed weapons, even when containing metal elements, had passed undetected through traditional walk-through metal detectors, although they had been detected with X-ray scanners, which were used at airports.

27. States further heard from experts in their presentations that specialized high-end 3D printers had a high associated cost of $500,000 to $1 million, putting them out of the current reach of most individuals. Technological improvements would

likely decrease the cost of high-end 3D printers. Low-end printers, on the other hand, cost upwards of $1,500.

28. Some States highlighted that they had already put in place measures to mitigate the risks associated with the 3D printing of weapons. Such measures included laws prohibiting making 3D weapon designs available on the Internet, instituting national awareness-raising programmes targeted at 3D printer manufacturers on the potential risks and ensuring export licences were in place for 3D printers.

29. Given that 3D printers themselves could potentially be used for printing illicit weapons, States also highlighted the need to pay attention to the resale of such printers.

Existing and new practices in marking, record-keeping and tracing

30. Paragraph 8 of the International Tracing Instrument required that unique markings be applied to small arms and light weapons at the time of manufacture, including the name of the manufacturer, the country of manufacture and the serial number, or any alternative unique user-friendly marking with simple geometric symbols in combination with a numeric and/or alphanumeric code, which would permit ready identification by all States of the country of manufacture. The Instrument also required, to the extent possible, that appropriate simple markings be made on each imported weapon that would permit the identification of the country of import and, where possible, the year of import.

31. Under this agenda item, States heard from experts regarding current and effective methods for marking weapons. With the partial exception of polymer frame weapons, traditional methods such as dot peen, engraving and hand stamping continued to meet most requirements.

32. Such methods could also be a solution in cases in which challenges were associated with the potential breakdown of marking machines, or for the logistical challenges of transporting the machines to different locations. It would also be appropriate to consider such scenarios in corresponding international assistance programmes.

33. New technologies (for example, microdot and nanotechnologies for tracing) had recently entered the market. However, the technologies were not visible to the naked eye and, while they would not replace traditional marking methods owing to the International Tracing Instrument requirement for easily readable markings that were conspicuous without technical aids or tools, they could complement traditional marking methods by creating hidden marks that were difficult to find and erase.

34. States also considered micro-stamping technology that, for instance, enabled a mark to be imprinted on an ammunition cartridge by the firing pin when the weapon was fired, with the aim of enhancing tracing. Experts highlighted that the technology was easily defeated by erasing the mark if found or by replacing the entire firing pin. Although not a primary marking technology, if desired, micro-stamping could be used in addition to other types of marking.

35. States highlighted that, beyond the marking of weapons, the accurate recording of such marks — even by hand — was key, as, in the end, that was what could help to enable a successful trace.

Stockpile management: new methods for traditional tasks

36. Under the Programme of Action, Member States undertook to ensure that their armed and security forces established adequate and detailed standards and procedures relating to the management and security of their stocks of small arms and light weapons. Those standards and procedures were to include physical security measures, control of access to stocks, inventory management and accounting control, and security, accounting and control of small arms and light weapons held or transported by operational units or authorized personnel.

37. Experts shared national practices and regulations relating to stockpile management, including the marking, record-keeping and tracing of weapons, and in that regard considered barcodes, radio frequency identification and biometrics for the purposes of electronically identifying stored items, collecting data on them and enabling the data to be entered automatically into record-keeping systems.

38. Some States shared their practice of using Bluetooth and other technologies to support the inventory management of their stockpiles. Among other things, such technologies enabled the real-time tracking of inventoried items, for example, from manufacturer to storage and from storage to the individual users.

39. In a similar vein, States also considered the usability of radio frequency identification and biometric technologies in limiting access to the weapon to authorized users only. States considered that, for armed and security forces, this, together with Global Positioning System tracking technologies, might create operational challenges that could put personnel at risk. At the same time, some States noted that the application of such technologies to civilian-owned weapons could be a possibility in the future for those who wished to use it.

D. Transfer of technology and equipment, as well as capacity-building, in particular training, for the full and effective implementation of the Programme of Action and the International Tracing Instrument

International cooperation and assistance: needs and challenges

40. A recurring theme at the meeting was the technical divide between States that did not have or use new technologies and those that did. It was emphasized that the traditional methods of marking, record-keeping and tracing were often entirely adequate and reliable. States considered international cooperation and assistance, including the transfer of technology and equipment, to be a central component for the full and effective implementation of the Programme of Action and the International Tracing Instrument.

41. States heard from expert presenters that, in the provision of assistance, key issues included taking into account the national priorities of beneficiary countries and, crucially, involving national authorities in the entire cycle of project implementation, beginning with the planning and design and continuing to the implementation and assessment phases. Among other things, such involvement would facilitate a more efficient transfer of relevant knowledge to the beneficiary country.

42. The sustainability of assistance, including the development of a regulatory environment, and the transfer of knowledge were emphasized, along with the need to take into account the local environment, including the provision of training in local languages. The need for an agreement of terms between donors and beneficiary countries was also highlighted. Recurring costs, such as training, electricity and fuel, and possibilities for regional harmonization, including the provision of compatible equipment, should be considered.

43. It was underscored that coordination remained a very important issue to be addressed in the provision of international assistance, as there were often several donor countries, international or regional organizations and non-governmental organizations, each with different projects, providing assistance in the same country. States highlighted the need to ensure regular coordination meetings between assistance providers at the country level, including through the United Nations, and including in the early project planning phase to prevent duplication.

44. Some States suggested to increase and direct the cooperation efforts through the regional centres of the United Nations Office for Disarmament Affairs, which would help to share experience and adjust it to national individual demands.

45. It was noted that regional and subregional organizations had an important role to play, upon request, in the implementation of the Programme of Action and the International Tracing Instrument, including in the coordination of assistance. States were also encouraged to cooperate closely with regional and subregional organizations as a matter of good practice, given their particular knowledge of the countries and the circumstances of the relevant region or subregion.

46. It was highlighted that international assistance was a partnership in which donors and beneficiaries should work closely together. Donor States highlighted that they faced some challenges in the provision of assistance and urged that the consideration of regulations, structures, infrastructure and support mechanisms, including adequate national personnel management practices, take place in recipient States.

International cooperation and assistance: trust funds

47. States considered the question of strengthening the mechanisms for the provision of assistance under the Programme of Action and the International Tracing Instrument.

48. There were calls for the establishment of a United Nations trust fund dedicated to the implementation of the Programme of Action and the International Tracing Instrument. Some States also suggested additional modalities for the trust fund, such as funding through the regular budget of the United Nations, while others did not agree with that option, proposing voluntary funding mechanisms instead. States also suggested the establishment of similar trust funds at the regional level, through the regional centres of the Office for Disarmament Affairs. There were also calls for a database of donor resources.

49. Some States highlighted the existence of the United Nations Trust Facility Supporting Cooperation on Arms Regulation, through which a group of donors provided for the implementation of the Arms Trade Treaty, as well as the Programme of Action. States in a position to do so were urged to contribute to existing trust fund arrangements, including the Trust Facility.

E. Additional issues relating to implementation of the Programme of Action and the International Tracing Instrument

50. Issues raised under this agenda item, and previously introduced by delegations, included:

(a) Promotion of a culture of peace;

(b) Strengthening of the implementation of existing provisions of the International Tracing Instrument and the Programme of Action;

(c) Awareness-raising and training in affected areas;

(d) Strengthening border controls and cross-border cooperation;

(e) Ammunition;

(f) Craft production of small arms and light weapons;

(g) Direct State control over transfers of small arm and light weapons, including brokering;

(h) Unlicensed manufacturing of small arms and light weapons;

(i) Re-export of small arms and light weapons produced under foreign licence;

(j) Licensing of the manufacture of small arms and light weapons as a matter of intellectual property;

(k) Transfer of weapons to non-State armed groups;

(l) Synergies between relevant instruments, including linkages between the Programme of Action and the Arms Trade Treaty;

(m) Security Council resolutions 2117 (2013) and 2220 (2015) on the issue of small arms and light weapons.

F. Initial conclusions and recommendations

Materials

51. States noted that some traditional methods of marking weapons were not suitable for marking polymer weapons. Although laser marking could be used, it was more expensive than other methods and did not yield a durable (recoverable) mark. Other potential solutions to the marking of polymer weapons included the insertion of a metal plate or tag in the polymer weapon and the stamping of durable marks on such plates or tags, as already done by some manufacturers. When the end user of a weapon was known, manufacturers could also put import markings on it at the time of manufacture. It would be interesting to further explore, with manufacturers, the idea of inserting an additional metal tag for post-manufacture markings. Further guidance on cost-effective options for the marking of polymer weapons might be considered.

Modular weapons

52. States noted that the part of the modular weapon that was the essential or structural component (and thus bore the serial number of the weapon for record-keeping and tracing purposes) needed to be clearly identifiable. Such a component could be marked with a number "(1)" just before the serial number to make it easily recognizable. Although modular weapons were not yet found in many States, further guidance on the marking, record-keeping and tracing of modular weapons might be considered.

Production

53. States noted that although the use of 3D-printing technology to manufacture small arms and light weapons was still in its infancy, it had the potential to pose serious challenges to the implementation of the Programme of Action and the International Tracing Instrument. In particular, as the costs of hardware, software and printing materials declined, there was a risk that the technology would become more attractive to criminals. Further consideration of ways of strengthening controls over 3D printing technology might be required in order to prevent illegal applications of the technology.

Marking, record-keeping and tracing

54. Equipment required consistent care and maintenance, which could be a challenge. In many cases, traditional marking methods offered the most cost-effective solution for the marking, record-keeping and tracing of weapons. If barriers to effective implementation existed for a pen-and-paper approach to record-keeping, those barriers might also exist should sophisticated technology be emplaced, and might be tackled first. New marking technologies, however, could provide an additional level of support in tracing, where their implementation was possible.

Stockpile management

55. A differentiation was made between technologies used for tracing in accordance with the International Tracing Instrument and technologies used for stockpile and inventory management. Radio frequency identification and other tracking technologies were notably used more for the latter purpose currently. Some States mentioned the desirability of the creation of adequate and sensible safe storage requirements for weapons owned by civilians, taking into the account the capacity of the local community to do so.

International cooperation and assistance

56. Further attention needed to be given to the issue of international cooperation and assistance, including the transfer of technology, particularly in the light of the discussions at the meeting of new developments in small arms and light weapons technology. The modalities of international cooperation and assistance should be further enhanced and could be a topic to be considered at the Sixth Biennial Meeting of States to Consider the Implementation of the Programme of Action to Prevent, Combat and Eradicate the Illicit Trade in Small Arms and Light Weapons in All Its Aspects.

57. States continued to observe the need to increase the utility of reporting, in particular by using national reports to identify implementation trends and challenges and to enhance the matching of assistance needs with available resources.

Trust funds

58. At the Sixth Biennial Meeting, States could consider the adequacy of existing voluntary trust fund mechanisms for international cooperation and assistance, including the transfer of technology, as well as how they might wish engage those mechanisms for the more effective implementation of the Programme of Action and the International Tracing Instrument.

59. Noting the presentation provided by the Office for Disarmament Affairs at the meeting on options for enhanced funding and training, States reiterated their request for the Secretariat to fulfil its mandate in the outcome document of the Fifth Biennial Meeting of States by presenting the following for consideration at the Sixth Biennial Meeting:

- Options for the enhanced funding of activities relating to the implementation of the Programme of Action and the International Tracing Instrument, including trust fund arrangements
- The establishment of programmes for the training of relevant officials nominated by their respective Governments in areas relating to the implementation of the Programme of Action and the International Tracing Instrument

60. States also requested the Secretariat to fulfil its mandate in the outcome document of the Fifth Biennial Meeting to carry out a comprehensive study on the adequacy, effectiveness and sustainability of financial and technical assistance, including the transfer of technology and equipment, particularly to developing countries since 2001, for the full implementation of the Programme of Action, and to submit the study for consideration before the Sixth Biennial Meeting of States, in 2016. The Secretariat was asked to issue a note verbale to States requesting their inputs for the documents. States were urged to submit such inputs in order to support the Secretariat in fulfilling its mandate.

Looking towards the Sixth Biennial Meeting of States to Consider the Implementation of the Programme of Action to Prevent, Combat and Eradicate the Illicit Trade in Small Arms and Light Weapons in All Its Aspects

61. At the second open-ended meeting of governmental experts, States raised specific issues and suggested that these be taken up at the Sixth Biennial Meeting of States. The issues included:

(a) Consideration of the need for further agreed guidance for marking polymer weapons; the marking, record-keeping and tracing of modular weapons; and strengthening 3D printing regulations in the context of 3D weapon printing, including further dialogue with industry on the above issues;

(b) Consideration of enhancing the modalities relating to international cooperation and assistance, including the transfer of technology;

(c) Consideration of an enhanced role for regional and subregional organizations in international cooperation and assistance and the exchange of information;

(d) Consideration of the further utility of national reports submitted on the Programme of Action and the International Tracing Instrument for the provision of information on matching needs with resources;

(e) Consideration of existing trust fund modalities for the full and effective implementation of the Programme of Action and the International Tracing Instrument, and whether the setting up of other trust funds was required.